6.1 GROUNDWATER PATHWAY

6.1.1 Groundwater Characteristics

Groundwater in the Baton Rouge area is found in (1) shallow Quaternary alluvial sands, (2) shallow
Pleistocene aquifers known as the 400-, 600-, 800-, 1000-, 1200-, and 1500-foot sands, and
(3) Tertiary-age aquifers known as the 1700-, 2000-, 2400-, and 2800-foot sands (Ref. 14, p. 47;
Ref. 15; Ref. 16; Ref. 17; Ref. 18, pp. 1 to 5, 9, and 16).

6.13 **Groundwater Receptors**

The public drinking water supply for most of the Baton Rouge area comes from the deeper
Pleistocene and Tertiary sand aquifers (Ref. 14, p. 47; Ref. 15; Ref. 16; Ref. 17; Ref. 18, pp. 1 to
5, 9, and 16). Public supply wells screened in the 1200-, 1500-, 2000-, and 2400-foot sands have
been identified within 4 miles of die general site area (Ref. 15; Ref. 16; Ref. 17; Ref. 18, pp. 1 to 5,
9, and 16). The nearest public drinking water supply well is more than 1 mile from the site (Ref.
15). The Louisiana Department of Transportation and Development Water Well Registration System
identifies the owner, geologic unit, location, use, and screening interval (s) of each registered water
well in the state of Louisiana (Ref. 18). No private drinking water wells were identified within 1/4
mile of the site (Ref. 18).

Groundwater contamination of the shallow alluvial sediments has been identified in the bayou area
next to the PPI site (Ref. 20, p. 2). However, the groundwater migration pathway was not sampled
during die ESI, because (1) the available information indicates that only the shallow groundwater has
been contaminated, (2) the nearest public drinking water supply .well is more than 1 mile from the
site, (3) potable aquifers are relatively deep, (4) there are no private drinking water wells within 1/4
mile of the site, and (5) contamination, if any, detected in wells could not be attributed to the

contamination specific to that in Devil's Swamp Lake, since a heavy industrial area is located between
the site and public drinking water wells of concern.

62 SURFACE WATER PATHWAY

6.2.1 Surface Water Characteristics

Devil's Swamp Lake is a man-made bow-shaped lake located about 1/4 mile northwest of the Baton
Rouge Turning Basin, which is directly connected to—and located within 2 miles of—the Mississippi
River. The lake is subject to (1) sheet flow from Bayou Baton Rouge through Devil's Swamp, and
(2) discharges and storm water runoff from the Rollins facility. Surface water from Bayou Baton
Rouge flows an average of 0.70 cubic feet per second (cfs) into Devil's Swamp and eventually into
Devil's Swamp Lake (Ref. 28). The lake is also subject to seasonal backwater flooding from die
Mississippi River (Ref. 2, p. 1). The position of the lake in relation to die bayou, swamp, and the
harbor makes interconnection and flow to the Mississippi River very likely.

633 Surface Water Receptors

Devil's Swamp Lake is located within Devil's Swamp, which is a wetland of about 3,500 acres.
Devil's Swamp, considered an important wetland habitat, is used by migratory birds (Ref. 21).
Devil's Swamp Lake and Devil's Swamp may be considered a fishery, since both were posted wirn
warnings advising die public against fishing there or consuming fish caught there (Ref. 7, p. 1).
High concentrations of volatile and semivolatile organic compounds, PCBs, and metals have been
detected in the sediments of the lake. Additionally, organic contaminants and PCBs have been
identified in fish tissue samples from Devil's Swamp Lake (Ref. 7, p. 1). Analysis of surface water
samples (SW-01 dirough SW-04) collected during the October 1992 ESI revealed no observed
contaminant releases.
Hazardous substances in die Devil's Swamp Lake sediments may present a significant threat to the
human food chain and environmental targets via the surface water migration pathway, because (1) the
area is used for hunting and fishing, (2) the Devil's Swamp Lake site is located in a wetlands area,

and (3) several species on the federal list of threatened or endangered species have been identified in
the area (Ref. 8, pp. 1, 2, 4, and 6; Ref. 9, p. 3; Ref. 10, p. 1; Ref. 22; Ref. 23; Ref. 24; Ref. 25).
The threatened or endangered animal species that have been identified in the area include (1) Falco
peregrinus anatum (the peregrine falcon), (2) Haliaeetus leucocephalus (the bald eagle), and
(3) Scaphirhyncus albus (the pallid sturgeon) (Ref. 23; Ref. 24; Ref. 25). The peregrine falcon and
bald eagle overwinter in the area, and the pallid sturgeon inhabits the Mississippi River near the
mouth of Bayou Baton Rouge (Ref. 23; Ref. 24; Ref. 25). Mimulus ringens (the square-stemmed
monkey flower), which is on the federal list of threatened or endangered plant species, is known to
occur on the river sides of the Mississippi River levees near Baton Rouge (Ref. 24; Ref. 25).
Neither Devil's Swamp Lake nor the Mississippi River is used as a drinking water supply in the area.
No surface water intakes are known in the Mississippi River within 15 miles downstream from the
mouth of Devil's Swamp Lake (Ref. 26).

6.3 GROUNDWATER RELEASE TO SURFACE WATER PATHWAY

No samples were collected from Devil's Swamp Lake to document that contaminants are migrating
via this pathway.

6.4 SOIL EXPOSURE PATHWAY

No samples were collected from Devil's Swamp Lake to document that contaminants are migrating
via this pathway.

6.4.1 Resident Threat Receptors

There is no resident population on-site.

6.4.2 Nearby Threat Receptors

There are no residences within 1/2-mile of the site. About 32 people live within a 1/2 - to 1-mile
radius of the site; 877 people live within a 1- to 2-mile radius; 11,503 people live within a 2- to

3-mile radius; and 8,289 people live within a 3- to 4-mile radius. The total population within a
4-mile radius of the site is 20,701 (Ref. 27). Historically, the area has been used for recreation,

including hunting and fishing (Ref. 8, pp. 1, 2, 4, and 6; Ref. 9, p. 3; Ref. 10, p. 1). The site is
now relatively inaccessible to the general public (Ref. 8, p. 4).

6.5 AIR PATHWAY

No samples were collected from Devil's Swamp Lake to document that contaminants are migrating
via this padiway.

6.5.1 Air Pathway Characteristics

The potential for an air release from the site is minimal because most of the hazardous substances in
the Devil's Swamp lake area are present in sediments covered by surface water.

6.5.2 Air Receptors

There is no resident population on site. There are no residences within 1/2 mile of the site. About
32 people live widiin a 1/2- to 1-mile radius of the site; 877 people live within a 1- to 2-mile radius;
11,503 people live within a 2- to 3-mile radius; and 8,289 people live within a 3- to 4-mile radius.
The total population within a 4-mile radius of the site is 20,701 (Ref. 27).

The Devil's Swamp Lake site consists of a man-made bow-shaped lake near the Baton Rouge Turning
Basin in Scotlandville, East Baton Rouge Parish, Louisiana. The lake was not designed to contain
hazardous wastes. However, runoff from industries located in the area has contributed to historical
and current contaminant releases in the lake. Rollins and PPI have both been identified by LDEQ as
having contributed to the disposal of wastes at the site. Sampling results have revealed the presence
of chlorinated hydrocarbons, in addition to inorganic compounds, in the sediments, surface water, and
aquatic biota of Devil's Swamp Lake.

Devil's Swamp Lake is bordered on die west and south by Devil's Swamp, on the east by Baton
Rouge Turning Basin, and on the northeast by Agway Industries and Baton Rouge Port Commission
property. The lake is subject to (1) sheet flow from Bayou Baton Rouge through Devil's Swamp, and
(2) discharges and storm water runoff from Rollins facility. The lake is also subject to seasonal

flooding from die Mississippi River. The position of the lake in relation to Bayou Baton Rouge,
Devil's Swamp, and the harbor results in interconnection and flow to die Mississippi River.
High concentrations of volatile and semivolatile organic compounds, PCBs, and metals have been
detected in the sediments of die lake. Additionally, HCB, HCBD, and PCBs have been identified in
fish tissue samples from Devil's Swamp Lake. In 1987, LDEQ posted signs 'at Devil's Swamp Lake,
advising the public against physical contact with surface water and against consuming fish caught in
die lake. In 1993, the advisory was expanded to include all areas of Devil's Swamp, Devil's Swamp
Lake, and Bayou Baton Rouge south of Hall-Buck Marine Road.
An ESI sampling inspection conducted by EPA in October 1992 detected elevated concentrations of
chlorinated organics and inorganic compounds in sediment samples collected from Devil's Swamp
Lake. Aroclor-1254 was die most frequently detected organic constituent. Chemical analysis
detected aroclor-1254 concentrations of up to 6,400 /tg/kg in the sediment samples collected from
Devil's Swamp Lake. Cadmium and lead were also detected in numerous sediment samples, with
concentrations of up to 25.7 mg/kg and 176 mg/kg, respectively. Chemical analysis of surface water
samples revealed no detections of substances at concentrations qualifying as observed contamination.